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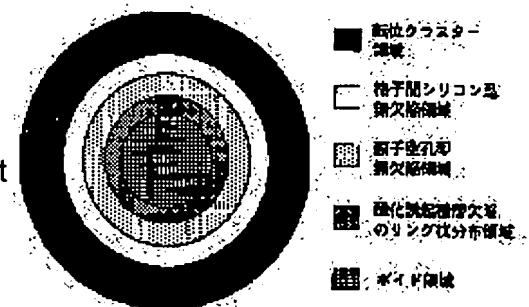
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(54) SILICON SINGLE CRYSTAL WAFER AND ITS PRODUCTION

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method for producing silicon single crystal wafers over the whole length of the crystal in a high yield, wherein each of the silicon single crystal wafer is characterized in that an area where oxidation-induced laminated defects are generated in a ring-like distribution on a thermal oxidation treatment is eliminated from the center of the wafer and in that a dislocation cluster is absent over the whole surface of the wafer, and to provide a method for producing a CZ silicon single crystal wafer in which the concentration of oxygen is controlled and in whose surface the irregularity of the oxygen concentration is $\leq 5\%$.

SOLUTION: On the growth of a silicon single crystal by Czochralski method, the Gm/Gs ratio of a melted liquid side temperature gradient Gm to a crystal side temperature gradient



Gs in the crystal-pulling axis direction on the growth interface of the crystal is 0.16 ± 0.05 . Therein, a cusp magnetic field or a horizontal magnetic field is applied to a silicon melt.

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